

described forms by the greater extension backwards of the dark colour of the crown.

In the skull *E. talpinus* and *rufescens* are smaller, with much simpler  $m^3$ ; *E. tancrei* is larger, with longer muzzle and more forwardly projected incisors, as are also, with differently shaped lambdoidal ridges, *E. fuscocapillus*, *intermedius*, *lutescens*, and *woosnami*.

21. *Lepus* sp.

♂. 27, 29, 35; ♀. 26, 28, 38, 39, 53. 30 to 50 miles W. of Bokhara. 600'.

22. *Lepus* sp.

♂. 113; ♀. 114. Hissar Mts., 100 miles E. of Samarkand.

In face of the considerable number of names that have been given to Central-Asian hares, I cannot at present determine definitely the two species obtained by Mr. Carruthers. One of them is no doubt *L. lehmanni*, Sev.

23. *Ochotona rutila*, Sev.

♂. 119. Hissar Mts., 100 miles E. of Samarkand. 9500'.  
"Shot among rocks; not at all shy; was carrying a large amount of grass."—D. C.

XXXII.—Two new Bats from the Solomon Islands.

By KNUD ANDERSEN.

*Pteralopex anceps*, sp. n.

*Diagnosis*.—Dentition less specialized than in *Pt. atrata* (Guadalcanar, E. Solomon Islands); fur much longer; underside of body conspicuously paler. *Hab.* Bougainville, W. Solomon Islands.

$p^4$ .—More Pteropine in shape and structure than corresponding tooth of *Pt. atrata*. In *Pt. anceps*  $p^4$  is one-fifth longer than broad (actual measurements, antero-posterior diameter of crown 5.8 mm., transverse diameter 4.8); the anterior basal ledge is narrow, not extending on the inner side of the tooth round the base of the inner main cusp; the posterior basal ledge less heavy, particularly postero-internally, and not

extending on the inner side of the tooth; inner main cusp not essentially different from that of  $p^4$  of a *Pteropus*, *i. e.* it has preserved its character of a longitudinal ridge, is not much shortened antero-posteriorly, and, as in *Pteropus*, it constitutes the inner wall of the tooth (is not pressed inward, on the crushing surface of the tooth). In *Pt. atrata*  $p^4$  is much more conspicuously shortened, being only one-twelfth longer than broad (actual measurements from four skulls, antero-posterior diameter of crown 4.8-5.2 mm., transverse diameter 4.7-4.8); the anterior basal ledge is broad and extends, as a well-marked ledge, on the inner side of the tooth round the base of the inner main cusp, which is consequently cut off from the inner side of the tooth and practically situated on the crushing surface; posterior basal ledge heavy, particularly postero-internally, in some individuals showing a very pronounced tendency to extend forward along the inner base of the tooth, nearly meeting and uniting with the inner prolongation of the anterior ledge; inner main cusp of tooth much more shortened antero-posteriorly, *i. e.* it has entirely lost its character of a longitudinal ridge and is transformed into a conical cusp.

$p^3$  and  $m^1$ .—Differential characters of  $m^1$  much the same as those described above, under  $p^4$ .  $p^3$  is in neither species so much specialized as  $p^4$ , the differential characters therefore correspondingly less conspicuous.

$p_3$ ,  $p_4$ , and  $m_1$ .—The bifurcation of the tip of the outer cusp of  $p_4$  and  $m_1$  (one of the most peculiar characters of the genus) is much less pronounced in *Pt. anceps*; it is well marked on the inner side (crushing surface) of the cusp, but in the profile of the outer side of  $p^3$  and  $m^1$  it shows only as a slight depression in the upper margin of the cusp, whereas in *Pt. atrata* it is a deep notch.  $p_3$ ,  $p_4$ , and  $m_1$  are conspicuously less shortened, being about one-half (in *Pt. atrata* only one-fourth) longer than broad. As in the upper teeth, the inner main cusp of  $p_4$  and  $m_1$  is more ridge-like, much less cusp-like (conical), than in *Pt. atrata*. The posterior basal ledge of  $p_4$  and  $m_1$ , which in *Pt. atrata* is much more developed on the postero-internal than on the postero-external corner of the teeth, thus rendering the posterior margin of the teeth strongly oblique (particularly in  $m_1$ ), is in *Pt. anceps* smaller and more equally developed postero-externally and postero-internally, rendering the hinder margin less oblique.

*Incisors and canines*.—Upper incisors and canines, outer lower incisors, and lower canines heavier than in *Pt. atrata*; upper incisors, combined breadth, 10.8 mm. (9.7-10 in four skulls of *Pt. atrata*); upper canines, vertical extent from

alveolus 10 (8.7-9.2), greatest antero-posterior diameter of crown 6.2 (5.2-5.7).

*Fur*.—Approximate length of hairs, back 20 mm. (12-14 in *Pt. atrata*), mantle 30 (18-20), belly 21 (13-15). Tibia and metatarsus densely clothed above; thinly scattered hairs on phalanges of toes; in *Pt. atrata* the fur extends backward on proximal three-fourths of tibia, leaving distal fourth of tibia, metatarsus, and phalanges naked save for some thinly spread hairs. Furred area of back broader than in *atrata*.

*Colour*.—Blackish tinged with seal-brown; middle of breast and belly light drab with short concealed seal-brown bases to the hairs. *Pt. atrata* is practically uniform blackish above and beneath, with no trace of drab on underparts.

*Size*.—Probably as *Pt. atrata*. The type and only specimen known is slightly immature (evidently very nearly full-grown; forearm 137 mm., in four adult *Pt. atrata* 139-143.5).

*Type*. ♀ imm. (skin and skull); Bougainville, April 1904; collected by A. S. Meeke; B.M. 8. 11. 16. 7.

*Remarks*.—The discovery of this species is of particular interest, not only because it is a second form of the peculiarly aberrant genus *Pteralopex*, which was hitherto known from Guadalcanar only, but also, and chiefly, because it links that genus more intimately to *Pteropus*. *Pteralopex anceps* possesses all the essential dental characters of *Pt. atrata*, some of these quite as highly developed as the eastern species (enlargement of upper incisors and canines, outer lower incisors, and  $p_{11}$  secondary cusp of upper canines, &c.), others decidedly less developed (anterior and posterior basal ledges of molariform teeth, splitting of outer cusp of  $p_4$  and  $m_1$ ), but at the same time it has preserved more of the dental characters of an ordinary *Pteropus* (inner ridges of upper and lower molariform teeth, less excessive shortening of these teeth). So far as the two latter categories of characters are concerned, it shows one of the stages through which the still more highly specialized *Pt. atrata* must, in all probability, have passed. Externally, in the distribution, quality, and length of the fur, as well as in the colour of the whole of the upper side, it bears a striking resemblance to *Pteropus pselaphon* (see my paper on the affinities of *Pteralopex*, Ann. & Mag. Nat. Hist., Feb. 1909, pp. 218-222).

*Hipposiderus demissus*, sp. n.

*Diagnosis*.—A species of the *H. diadema* group, allied to *H. occanitis* (Guadalcanar), but much smaller, and conspicuously paler beneath. *Hab.* San Christoval, E. Solomon Islands.

*Colour.*—Exposed colour of upperside dark brown, between vandyck-brown and seal-brown, this colour confined to tips of hairs; middle portion of individual hairs light ecru-drab or whitish ecru-drab; extreme base dark brown. A distinct but not very sharply defined cream-buffy or nearly whitish stripe on each side of back along membranes. General colour of underside drab tinged with hair-brown, and conspicuously lightened with greyish white on sides of breast and belly; concealed bases of hairs nearly everywhere dark brown.—The upperside is not essentially different in colour from (only a little paler than) that of *H. oceanitis*; the colour of the underparts is very much lighter.

*Measurements.*—Two adult skins and skulls of *H. demissus* (in parentheses, for comparison, measurements of two adult specimens and skulls of *H. oceanitis*):—Forearm 64·5 and 68·5 mm. (79 and 79), third metacarpal 50·5 and 50·5 (54·5 and 56·5), fourth metacarpal 48·5 and 48·5 (54 and 56), fifth metacarpal 46 and 46·5 (51 and 52·5), lower leg 25·5 and 28·5 (35 and 36). Zygomatic breadth of skull 15·2 and 15·5 (17·3 and 17·5), mandible, condylus to front of incisors 19 and 19·5 (21·5 and 21·7), maxillary tooth-row, c-m<sup>3</sup> 10·2 and 10·2 (11·3 and 11·8), lower tooth-row, exclusive of incisors 11·5 and 11·7 (12·9 and 13·1).

*Type.* ♂ ad. (skin and skull); Yanuta, San Christoval, 28th April, 1908; collected by A. S. Meek.

*Remarks.*—The Solomon Islands are now known to be inhabited by three perfectly distinct forms of the *H. diadema* type: the very large and long-legged *H. dinops*, apparently confined to the New Georgia group; the small *H. oceanitis*, from Guadalcanar, which in many respects, even in size, is similar to *H. pullatus* (New Guinea), but considerably different in colour; and the very small, pale-bellied *H. demissus*, confined to San Christoval. The latter species is at the same time the smallest and the extreme eastern representative of the *diadema* group.—A similar, or if anything still stronger, splitting of one type of bat into different species, each confined to one island or group of islands of the Solomon Archipelago, is shown by the *Pteropus rayneri* group: *Pt. cognatus* in San Christoval, *Pt. rayneri* in Guadalcanar, *Pt. rubianus* in the New Georgia group, *Pt. lavellanus* in Vella Lavella, and *Pt. grandis* in the Bougainville group (a sixth species, *Pt. chrysoproctus*, is found in the Moluccas). The *Pteropus hypomelanus* group is represented in the Solomon Islands by two species, one western (*Pt. colonus*, Bougainville group) and one central (*Pt. solomonis*, New Georgia group). And as pointed out above, also *Pteralopex* is differentiated into

two perfectly distinct species, one western (*anceps*, Bougainville) and one eastern (*atrata*, Guadalcanar). The faunistic areas of the Solomon Archipelago indicated by the distribution of the five species of the *Pteropus rayneri* group are very nearly the same as those recognized by ornithologists (see W. Rothschild and E. Hartert, Nov. Zool. xii. pp. 243-244, 1905).

XXXIII.—*Description of a new Cichlid Fish of the Genus Heterogramma from the La Plata.* By C. TATE REGAN, M.A.

*Heterogramma pleurotænia.*

Depth of body  $2\frac{2}{5}$  in the length, length of head  $2\frac{5}{6}$ . Snout shorter than eye, the diameter of which is 3 in the length of head; interorbital width  $3\frac{3}{4}$  in the length of head. Depth of præorbital  $\frac{1}{3}$  the diameter of eye. Maxillary extending a little beyond the vertical from anterior edge of eye; jaws equal anteriorly; fold of the lower lip continuous; cheek with 4 series of scales; no distinct gill-rakers on the lower part of the anterior arch. Scales  $23\frac{2}{8}$ ; upper lateral line well developed on 8 or 9 scales only; lower lateral line vestigial or absent. Dorsal XVI 6; spines subequal from the fourth, the last  $\frac{2}{5}$  the length of head. Anal IV 5. Pectoral nearly as long as the head. Caudal rounded. Caudal peduncle deeper than long. A dark lateral stripe from eye to base of caudal; a broad oblique blackish bar from eye to interoperculum; caudal fin with a few transverse bars or series of spots; outer edge of pelvic fin dusky.

A single specimen, 40 mm. in total length, from the La Plata, received from Herr J. Paul Arnold.

The different coloration, somewhat deeper body, lower spines, narrower interorbital region, &c. distinguish this species from the allied *H. corumbæ* and *H. trifasciatum*. A specimen of *H. corumbæ* in the British Museum has IV 5 anal rays, and it is probable that in the species here described the normal number is III 6-7.